being broken off by the centrifuge, a typical aster is nevertheless formed in the cytoplasm. He thus provides further evidence that the segmentation centrosome is not necessarily produced by the middle-piece of the spermatozoon. There follow two interesting chapters on the physiology of the spermatozoon (tropisms, etc.), and of the egg during fertilization. The latter deals largely with questions of permeability to electrolytes, oxidation, etc., and is thus closely related to Loeb's work on Parthenogenesis. Specificity in fertilization is next discussed, and finally a chapter is devoted to the problem of activation.

Each chapter has a good bibliography, and the book has a sufficient index. It is to be recommended to all who take an interest in the physiological aspect of cytology, but it is a somewhat technical book on a special subject, and not one likely to make much appeal to those untrained in biology.

L. DONCASTER.

Saleeby, C. W., M.D. *The Whole Armour of Man.* Grant Richards; price 7s. 6d.

THE average book on hygiene is a byeword for dulness. Why this should be so it is hard to divine; but we venture to say that any reader of Dr. Saleeby's book of essays, reprinted under the above title, would go back to the dullest book on hygiene with a feeling that there is infinite romance in the subject; if, indeed, he would need to go back at all, and would not have found four-fifths of what he wanted in these vigorous and interesting pages.

It goes without saying that Dr. Saleeby hits hard. The politician performing the astonishing task of "living on his constituents' expired air" and always looking towards the next election, and the official suffering from the characteristically slow British *tempo*—and this in an exaggerated form—both come in for drastic treatment. The public schools, where chemistry is "stinks," are castigated again and again.

There is, in fact, a good deal of repetition in the book, but, except in the last instance, it is never wearisome. Dr. Saleeby's frequent references to past proposals of his own, rejected at the time but at last accepted by the nation, can be forgiven. "I shall cease to reiterate these truths when everyone knows and acts upon them, or until there are quicker ways of teaching slow-witted people" (p. 88).

The subjects which loom largest in this volume are alcohol and venereal disease. For alcohol he has no mercy, except when used as an industrial drug, in which case it is "invaluable" and, as easily produced from potatoes, likely to save the situation when our coal supplies give out. "The use of alcohol in pneumonia has been proved to increase the proportion of fatal cases by about 16 per cent." (p. 16). "There were several hundreds of infants saved last year because women drank less" (p. 94). "When the sale of spirits to women was entirely prohibited (in Paris) the still-births fell to the lowest on record" (p. 94).

Dr. Saleeby's attitude towards the orthodox temperance movement is friendly but critical. He regards the proposal for Sunday closing as having no integral connection with temperance, while on the other hand he lays great stress on dilution of alcoholic beverages—a proposal ignored by most "temperance" advocates.

Dr. Saleeby brushes aside the euphemisms which have hitherto kept the facts of venereal disease from common knowledge. A few years ago a column of statistics of infant mortality was headed "prematurity and congenital." Now we know that "the medical problem of infant mortality *was* especially syphilis and summer diarrhœa; the chief medical problem to-day *is* syphilis" (p. 91). Anti-syphilitic drugs can be successfully applied before birth: "salvarsan given then is worth more to both (mother and child) than given to either afterwards," and even tuberculosis is merciful so

long as the mother is carrying the infant: "there is symbiosis—a vital mutual service—between mother and infant" (p. 95).

In addition to the two main subjects, Dr. Saleeby discusses the "renewal of our years," "sleep and summer-time," commercial speculation, lunacy reform, the recent advances in chemo-therapeutics, the use of adrenalin, and a score of other topics. All these he touches with an imaginative and literary pen.

F. H. H.

Savage, W. G., B.Sc., M.D., D.P.H. *Food and the Public Health.* Cassell; price 5s.

THIS is an addition to the valuable "English Public Health Series," and maintains the level of its predecessors. Dr. Savage writes with first-hand knowledge of food problems, and has included some of his own, and Dr. Hope's, original researches and photographs showing the insanitary conditions under which our milk and other supplies are produced. Much of the recent work on vitamines, bacterial infection, etc., is here reproduced in an interesting and lucid form. Canned foods, the adulteration of foods, shell-fish, and alcoholic beverages are other subjects that are ably treated. To say that Dr. Savage has made his subject "interesting" to the common man is perhaps the best compliment we can pay his book.

F. H. H.

Robertson, JOHN, C.M.G., O.B.E., M.D., B.Sc. *Housing and the Public Health.* London: Cassell and Co.; 1919; price 5s.

THIS is a timely book. "Of all questions of the day," writes the author, "the one which is felt most keenly and which must be handled in the most drastic manner is that of making up the deficiency of houses in the first instance, and later in grappling with the question of dealing with slum properties" (p. 144). Dr. Robertson's long experience as Medical Officer of Health in Birmingham, his great services in that city and enthusiasm for the subject of housing, make him one of the first, if not the first authority on the subject in the country. He approaches it in the spirit of the reformer, with a well-grounded faith in the power of human nature to respond to the influence of improved environment. There is ample evidence in every town that better conditions produce better tenants, and that the people themselves approve and take advantage of improved conditions" (p. 10). "We may in this sense 'trust the people'" (p. 5). After a statement of the harm done by bad housing, and the bad environment which is its concomitant, and of the hope of improvement, estimated as "the saving in this county of 200,000 lives a year, with at least ten times this number of cases of illness" (p. 4), he goes on to set out the structural requirements of a healthy dwelling in a chapter which should be read by everyone who has anything to do with the housing of the working classes, whether as administrator, as social worker, or as tenant. To those who object to his minimum of three bedrooms, two sitting rooms, scullery and bathroom with hot and cold water, that it is above the means of the prospective occupiers, his anwer is that "never again must the labourer be allowed to suit the house to his wage, but rather the house must be suited to the minimal requirements of human life, and we must see to it that the wage is so raised that these requirements may be fulfilled" (p. 8). Especially suggestive is all he says about light and ventilation. The last generation was concerned with gas and water, our own has added the problem of light and air.

The titles of the immediately succeeding chapters sufficiently indicate the scope of his treatment. The space is allotted to "The Dwelling" (in which he gives his whole-hearted support to the "cottage" as against the "tenement" system), "The Future Housing of the People," "General Block Plan of the House" (with much sound advice about drains), "The Accommodations of a Cottage," "Materials," "Communal Services," "Housing in London." The last is far too short considering the impor-